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From the INTERNATIONAL SEARCHING AUTHORITY

PCT

INVITATION TO PAY ADDITIONAL FEES

(PCT Article 17(3)(a) and Rule 40.1)

To:

WOLF, GREENFIELD & SACKS, P.C.
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600 Atlantic Avenue
Boston, Massachusetts 02210
UNITED STATES OF AMERICA

Date of mailing
(day/month/year)

29/07/2002

Applicant's or agent's file reference

E0377/7012W0

PAYMENT DUE

within 45 ~~XXXX~~ days/days
from the above date of mailing

International application No.

PCT/US 01/47251

International filing date
(day/month/year)

05/12/2001

Applicant

THE BRIGHAM AND WOMEN'S HOSPITAL, INC.

1. This International Searching Authority

- (i) considers that there are 2 (number of) inventions claimed in the international application covered by the claims indicated ~~below~~ on the extra sheet:

Subject to PTA? YES/NO
per docket/ECB

6 08/08/02

and it considers that the international application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated ~~below~~ on the extra sheet:

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ECB	09/12/02
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- (ii) ☒ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:

1-43

- (iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid

2. The applicant is hereby invited, within the time limit indicated above, to pay the amount indicated below:

EUR 945, - x 1 = EUR 945, -
Fee per additional invention number of additional inventions total amount of additional fees

Or, _____ x _____ = _____

The applicant is informed that, according to Rule 40.2(c), the payment of any additional fee may be made under protest, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☒ Claim(s) Nos. See attached sheet (3rd page) have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the International Searching Authority



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Authorized officer

Véronique Baillou

EINSCHREIBEN

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-43

Immunomodulatory polymers, in particular bacterial polysaccharides, and preparations thereof

2. Claims: 44-61

Computer-assisted methods and systems for in silico analysing, predicting, simulating and selecting immunomodulatory polymer candidates

The problem to be solved is how to provide immunomodulatory polymers. The solution in the case of invention 1 is to isolate and purify polymers, in particular natural polysaccharides of bacterial origin. In the case of invention 2 the approach is theoretical: the solution to the above problem consists of the provision of the primary structure of a polymer, the simulation of its 3D structure and a prediction in silico about its potential immunomodulatory properties. Thus, the special technical features of the two solutions are not the same, and the present application is considered to lack unity (Rule 13.1 and 13.2 PCT). The search of the second invention would imply a significant additional effort.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 206

Continuation of Box 3.

Although claims 40-43 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Further defect(s) under Article 17(2)(a):

Continuation of Box 3.

Claims Nos.: 22-39 (partially)

Present claims 22-39 relate to a compound defined by reference to the following parameter(s):

3D conformation in solution and geometric-functional features of the same. The use of these parameters in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameters the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible. Consequently, the search has been restricted to the polymers disclosed in claims 1-21 in combination with the description, in particular bacterial polysaccharides.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:
- see 'Invitation to pay additional fees'
2. This communication is not the international search report which will be established according to Article 18 and Rule 43.
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 700 787 A (TZIANABOS ARTHUR O ET AL) 23 December 1997 (1997-12-23) abstract column 2, line 56 - line 65 column 3, line 5 - line 22 column 4, line 1 - line 11 column 15, line 1 - column 16, line 4 chemical structures tables	1-17,19, 22-40
X	--- TZIANABOS A O ET AL: "T cells activated by zwitterionic molecules prevent abscesses induced by pathogenic bacteria." THE JOURNAL OF BIOLOGICAL CHEMISTRY. UNITED STATES 10 MAR 2000, vol. 275, no. 10, 10 March 2000 (2000-03-10), pages 6733-6740, XP002206685 ISSN: 0021-9258 abstract page 6733, right-hand column, line 27 - line 47 figure 1 page 6738, line 49 -page 6739, line 8 --- -/--	1-17,19, 22-40

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KALKA-MOLL W M ET AL: "Effect of molecular size on the ability of zwitterionic polysaccharides to stimulate cellular immunity." JOURNAL OF IMMUNOLOGY (BALTIMORE, MD.: 1950) UNITED STATES 15 JAN 2000, vol. 164, no. 2, 15 January 2000 (2000-01-15), pages 719-724, XP002206686 ISSN: 0022-1767 abstract; figures 1,5 page 723, last paragraph ---	1-17,19, 22-43
X	BRUBAKER J O ET AL: "Mitogenic activity of purified capsular polysaccharide A from Bacteroides fragilis: differential stimulatory effect on mouse and rat lymphocytes in vitro." JOURNAL OF IMMUNOLOGY (BALTIMORE, MD.: 1950) UNITED STATES 15 FEB 1999, vol. 162, no. 4, 15 February 1999 (1999-02-15), pages 2235-2242, XP002206687 ISSN: 0022-1767 page 2235, right-hand column, line 1 - line 7 page 2235, right-hand column, last line -page 2236, left-hand column, line 3 figures 8,9 ---	1-17,19, 22-43
P,A	WANG Y ET AL: "Structural basis of the abscess-modulating polysaccharide A2 from Bacteroides fragilis." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. UNITED STATES 5 DEC 2000, vol. 97, no. 25, 5 December 2000 (2000-12-05), pages 13478-13483, XP002206688 ISSN: 0027-8424 the whole document -----	1-43

Patent Family Annex

Information on patent family members

International Application No

PCT/US 01/47251

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5700787	A	23-12-1997	US	5679654 A	21-10-1997
			AU	1321799 A	18-03-1999
			AU	702325 B2	18-02-1999
			AU	3543995 A	27-03-1996
			CA	2197563 A1	14-03-1996
			EP	0778780 A1	18-06-1997
			JP	10507746 T	28-07-1998
			WO	9607427 A1	14-03-1996
